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09/987,016	11/13/2001	Hiroto Terada	011417	6378
38834	7590	11/01/2005	EXAMINER	
WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP 1250 CONNECTICUT AVENUE, NW SUITE 700 WASHINGTON, DC 20036			ROCHE, TRENTON J	
			ART UNIT	PAPER NUMBER
			2193	

DATE MAILED: 11/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/987,016

Applicant(s)

TERADA ET AL.

Examiner

Trenton J. Roche

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 02 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 November 2001 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

1. This Office action is responsive to communications filed 2 September 2005.
2. Per Applicants' request, amended claims 1, 7 and 14 have been entered. Claims 1-20 are currently pending.
3. Claims 1-20 have been examined.

### ***Allowable Subject Matter***

4. As noted in the prior Office action of 6 October 2004, claims 12 and 13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
5. The following is a statement of reasons for the indication of allowable subject matter: The prior art of record, taken alone or in combination, do not teach or suggest a printer starting to print said print data and *interrupting said installation when receiving a print data* (emphasis added), and informing an upper-level apparatus of said interruption signal as recited in claim 12. Similar limitations regarding printer operations are recited in claim 13.

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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7. Claims 1-11 and 14-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,230,319 to Britt, Jr. et al (hereinafter "Britt") in view of U.S. Patent 6,388,763 to Han.

**Per claim 1:**

Britt discloses:

- a firmware installation method for installing firmware from an upper-level apparatus to a processing system through a network ("Information that has been transmitted onto the network from the server processing system is downloaded from the network. The downloaded information is then written into a flash memory in the client processing system to update existing information..." in col. 2 lines 32-37)
- receiving each block of said firmware consisting of a plurality of blocks (Note Figure 10 and the corresponding section of the disclosure)
- storing said each received block to a memory (Note Figure 10 and the corresponding section of the disclosure)
- judging a guarantee range of the installed blocks using the data stored in said memory when resuming said installation after an interruption of said installation ("A field NUM\_BLOCKS is provided in flash memory to indicate the number of blocks written into flash memory so far" in col. 12 lines 18-20)
- by using a check sum for checking that received data has been accurately stored for each installed block ("A field NUM\_BLOCKS is provided in flash memory to indicate the number of blocks written into flash memory so far...Because the number of blocks already written has been maintained in flash memory...(which can be verified using a checksum

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upon start-up..." in col. 12 lines 18-29. Further, "the validity of all contents of the flash memory...are verified using a conventional checksum technique" in col. 8 lines 24-27)

- informing said judged guarantee range to said upper-level apparatus to resume installation ("downloading can be resumed. Because the number of blocks already written has been maintained in flash memory...only those data blocks which had not yet been written into flash memory are required to be downloaded" in col. 12 lines 26-31)

substantially as claimed. Britt does not explicitly disclose the processing system being a printer. Han discloses in an analogous interruptible firmware upgrade system the steps of replacing the firmware of a printer as claimed ("a technique for processing an ROM image when supplying of electrical power to a laser printer is interrupted during a down-loading of the ROM..." in col. 2 lines 60-63). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the upgrading methods of Britt with the printer disclosed by Han, as this would prevent malfunctions of the laser printer, while increasing reliability of the printer and lowering service costs of the printer, as disclosed by Han in col. 7 lines 38-45)

**Per claim 2:**

The rejection of claim 1 is incorporated, and further, Britt discloses resuming to install said firmware from the succeeding transfer block of the guarantee range in accordance with said guarantee range as claimed ("downloading can be resumed. Because the number of blocks already written has been maintained in flash memory...only those data blocks which had not yet been written into flash memory are required to be downloaded" in col. 12 lines 26-31) Britt does not explicitly disclose the processing system being a printer. Han discloses in an analogous interruptible firmware upgrade system the steps of replacing the firmware of a printer as claimed ("a technique for processing an

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ROM image when supplying of electrical power to a laser printer is interrupted during a down-loading of the ROM...” in col. 2 lines 60-63). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the upgrading methods of Britt with the printer disclosed by Han, as this would prevent malfunctions of the laser printer, while increasing reliability of the printer and lowering service costs of the printer, as disclosed by Han in col. 7 lines 38-45)

**Per claim 3:**

The rejection of claim 1 is incorporated, and further, Britt discloses receiving firmware management information and each block of the firmware entity, and judging said guarantee range of said installed blocks using said received management information and data stored in said printer means as claimed (“A field NUM\_BLOCKS is provided in flash memory to indicate the number of blocks written into flash memory so far” in col. 12 lines 18-20)

**Per claim 4:**

The rejection of claim 3 is incorporated, and further, Britt discloses a first reception step of receiving said firmware management information (Note Figure 7 and the corresponding sections of the disclosure), a second reception step of receiving said each block of the firmware entity (Note Figure 10 and the corresponding sections of the disclosure), and wherein said judging step comprises a step of judging said guarantee range of said installed blocks using said received management information and data stored in said memory as claimed (“A field NUM\_BLOCKS is provided in flash memory to indicate the number of blocks written into flash memory so far” in col. 12 lines 18-20. The system, after returning from a power interruption, would receive management information from the

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server indicating that an update is still required, and so the system would begin downloading from the last valid block indicated by NUM\_BLOCKS.)

**Per claim 5:**

The rejection of claim 3 is incorporated, and further, Britt discloses receiving blocks each consisting of firmware management information on said each firmware block and the firmware entity (“transmit the data, including the size of the block to be downloaded, an identification of the next block to be downloaded, the address in flash memory to which the current block is to be written, and a description of any data compression...” in col. 10 lines 3-7), and judging said guarantee range of said installed blocks using management information extracted from said each received block and data stored in said memory as claimed (“the number of blocks already written has been maintained in flash memory (which can be verified using a checksum...” in col. 12 lines 27-29.)

**Per claim 6:**

The rejection of claim 1 is incorporated, and further, Britt discloses informing an installation interruption to said upper-level apparatus and informing an installation resumption to said upper-level apparatus as claimed (“Power supply also is capable of sensing a loss of AC power and outputting a corresponding signal...Once power is restored and a connection to the server is reestablished, downloading can be resumed” in col. 11 line 66 to col. 12 line 26) Britt does not explicitly disclose the processing system being a printer. Han discloses in an analogous interruptible firmware upgrade system the steps of replacing the firmware of a printer as claimed (“a technique for processing an ROM image when supplying of electrical power to a laser printer is interrupted during a down-loading of the ROM...” in col. 2 lines 60-63). It would have been obvious to one of

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ordinary skill in the art at the time the invention was made to use the upgrading methods of Britt with the printer disclosed by Han, as this would prevent malfunctions of the laser printer, while increasing reliability of the printer and lowering service costs of the printer, as disclosed by Han in col. 7 lines 38-45)

**Per claim 7:**

Britt discloses:

- memory that stores said firmware (“flash memory...” in col. 12 line 12)
- communication unit that receives each block of said firmware consisting of a plurality of blocks from a upper-level apparatus (Note Figure 10 and the corresponding section of the disclosure)
- processor that processes said received block, storing into said memory (Note Figure 10 and the corresponding section of the disclosure)
- said processor judges a guarantee range of the installed blocks using the data stored in said memory when resuming said installation after an interruption of said installation (“A field NUM\_BLOCKS is provided in flash memory to indicate the number of blocks written into flash memory so far” in col. 12 lines 18-20)
- by using a check sum for checking that received data has been accurately stored for each installed block (“A field NUM\_BLOCKS is provided in flash memory to indicate the number of blocks written into flash memory so far...Because the number of blocks already written has been maintained in flash memory...(which can be verified using a checksum upon start-up...” in col. 12 lines 18-29. Further, “the validity of all contents of the flash memory...are verified using a conventional checksum technique” in col. 8 lines 24-27)



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- informs said upper-level apparatus of said guarantee range to resume installation  
("downloading can be resumed. Because the number of blocks already written has been maintained in flash memory...only those data blocks which had not yet been written into flash memory are required to be downloaded" in col. 12 lines 26-31)

substantially as claimed. Britt does not explicitly disclose the processing system being a printer. Han discloses in an analogous interruptible firmware upgrade system the steps of replacing the firmware of a printer as claimed ("a technique for processing an ROM image when supplying of electrical power to a laser printer is interrupted during a down-loading of the ROM..." in col. 2 lines 60-63). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the upgrading methods of Britt with the printer disclosed by Han, as this would prevent malfunctions of the laser printer, while increasing reliability of the printer and lowering service costs of the printer, as disclosed by Han in col. 7 lines 38-45)

**Per claim 8:**

The rejection of claim 7 is incorporated, and further, note the rejection regarding claim 3.

**Per claims 9 and 10:**

The rejection of claim 8 is incorporated, and further, note the rejections regarding claims 4 and 5, respectively.

**Per claim 11:**

The rejection of claim 7 is incorporated, and further, note the rejection regarding claim 6.

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**Per claim 14:**

Britt discloses:

- a network (Note Figure 1 and the corresponding section of the disclosure)
- upper-level apparatus for installation firmware through said network (Note Figure 1 and the corresponding section of the disclosure)
- memory that stores said firmware consisting of a plurality of blocks (“flash memory...” in col. 12 line 12. Further, note Figure 10 and the corresponding section of the disclosure)
- communication unit that receives each block of said firmware consisting of a plurality of blocks from a upper-level apparatus (Note Figure 10 and the corresponding section of the disclosure)
- processor that processes said received block, and storing into said memory after the reception (Note Figure 10 and the corresponding section of the disclosure)
- said processor judges a guarantee range of the installed blocks using the data stored in said memory when resuming said installation after an interruption of said installation (“A field NUM\_BLOCKS is provided in flash memory to indicate the number of blocks written into flash memory so far” in col. 12 lines 18-20)
- by using a check sum for checking that received data has been accurately stored for each installed block (“A field NUM\_BLOCKS is provided in flash memory to indicate the number of blocks written into flash memory so far...Because the number of blocks already written has been maintained in flash memory...(which can be verified using a checksum upon start-up...” in col. 12 lines 18-29. Further, “the validity of all contents of the flash memory...are verified using a conventional checksum technique” in col. 8 lines 24-27)

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- informs said upper-level apparatus of said guarantee range (“downloading can be resumed. Because the number of blocks already written has been maintained in flash memory...only those data blocks which had not yet been written into flash memory are required to be downloaded” in col. 12 lines 26-31)
- said upper-level apparatus restarts to install said firmware from the succeeding transfer block of said guarantee range (“downloading can be resumed. Because the number of blocks already written has been maintained in flash memory...only those data blocks which had not yet been written into flash memory are required to be downloaded” in col. 12 lines 26-31)

substantially as claimed. Britt does not explicitly disclose the processing system being a printer. Han discloses in an analogous interruptible firmware upgrade system the steps of replacing the firmware of a printer as claimed (“a technique for processing an ROM image when supplying of electrical power to a laser printer is interrupted during a down-loading of the ROM...” in col. 2 lines 60-63). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the upgrading methods of Britt with the printer disclosed by Han, as this would prevent malfunctions of the laser printer, while increasing reliability of the printer and lowering service costs of the printer, as disclosed by Han in col. 7 lines 38-45)

**Per claim 15:**

The rejection of claim 14 is incorporated, and further, note the rejection regarding claim 3.

**Per claims 16 and 17:**

The rejection of claim 15 is incorporated, and further, note the rejections regarding claims 4 and 5, respectively.

**Per claim 18:**

The rejection of claim 14 is incorporated, and further, note the rejection regarding claim 6.

**Per claim 19:**

The rejection of claim 18 is incorporated, and further, Britt discloses informing said upper-level apparatus of said interruption signal (note the rejection regarding claim 6). Britt does not explicitly disclose a printer printing data when detecting print data. Han discloses in an analogous interruptible firmware upgrade system the steps of replacing the firmware of a printer as claimed (“a technique for processing an ROM image when supplying of electrical power to a laser printer is interrupted during a down-loading of the ROM...” in col. 2 lines 60-63. The printer of Han would start to print once receiving print data from the user). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the upgrading methods of Britt with the printer disclosed by Han, as this would prevent malfunctions of the laser printer, while increasing reliability of the printer and lowering service costs of the printer, as disclosed by Han in col. 7 lines 38-45)

**Per claim 20:**

The rejection of claim 18 is incorporated, and further, Britt discloses informing said upper-level apparatus of said interruption signal (note the rejection regarding claim 6). Britt does not explicitly disclose a printer performing operations in response to a printer operation. Han discloses in an analogous interruptible firmware upgrade system the steps of replacing the firmware of a printer as claimed (“a technique for processing an ROM image when supplying of electrical power to a laser printer is interrupted during a down-loading of the ROM...” in col. 2 lines 60-63. The printer of

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Han would respond to printer operations sent from the user). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the upgrading methods of Britt with the printer disclosed by Han, as this would prevent malfunctions of the laser printer, while increasing reliability of the printer and lowering service costs of the printer, as disclosed by Han in col. 7 lines 38-45)

### ***Response to Arguments***

8. Applicant's arguments filed 2 September 2005 have been fully considered but they are not persuasive. The newly added limitation regarding utilizing a check sum to check for data accuracy is disclosed by Britt as indicated in the rejection *supra*.

### ***Conclusion***

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Trenton J. Roche whose telephone number is (571) 272-3733. The examiner can normally be reached on Monday - Friday, 9:00 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kakali Chaki can be reached on (571) 272-3719. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Trenton J Roche  
Examiner  
Art Unit 2193

TJR



**KAKALI CHAKI**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 2100**